MENTAL ARITHMETIC.

what he cost: what should be the selling price so that the gain might be 18 per cent. on the cost?

Sol.--18 per cent. cost=\$246, 1 per cent.=\$3, cost=\$300, 18 per cent.=\$54, price=\$354.

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6. Bought benanas at 4 for a quarter, and as many at 6 for a quarter; sold them all at 5 for a quarter and lost \$1 on the business: how many bananas were bought, and what did they cost ?

7. A dishonest baker set out with a basket of loaves which weighed 4 lbs. instead of 5 lbs. each; he had sold $\frac{3}{4}$ of his lot, by which his frauduleut gain was 48 cts., when the rest were confiscated, and his total loss was equal to $\frac{3}{5}$ of h' loaves: find the number of loaves.

> Sol.—Gain= $\frac{1}{5}$ price, gain on $\frac{3}{4}$ =48 cts., on whole 64 cts. \therefore 64 × 5=\$3.20, real value of bread; $\frac{1}{4}$ confiscated worth $\frac{4}{5}$ of $\frac{1}{4}$ = $\frac{1}{5}$ real value of bread=64 cts. partial loss \therefore total loss=12 cts. \therefore price=16 cts. \therefore 20 loaves.

8. A boy bends his hoop into the form of a triangle whose sides are 7, 17, and 20 inches: what was the diameter of the hoop, given circumference= $\frac{22}{7}$ diameter?

9. If a square rood be divided into 10 equal squares, what is the length of a diagonal of each of these smaller squares ?

Sol.—Square rood 1210 yards ... smaller square=121 square yards ... 1 side=11

yds., and diagonal= $\sqrt{2\times 11^2}$ or $11\sqrt{2}$ yds.

10. The nickel cent is 1 inch in diameter : find the area of the space enclosed by 3 coins, placed so as to

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